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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,987	01/15/2004	Douglas P. Anderson	MIC-M100	8326
32566	7590	09/27/2006	EXAMINER	
PATENT LAW GROUP LLP 2635 NORTH FIRST STREET SUITE 223 SAN JOSE, CA 95134			VAN ROY, TOD THOMAS	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/759,987	Applicant(s) ANDERSON ET AL.	
	Examiner <i>Tv</i> Tod T. Van Roy	Art Unit 2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-79 is/are pending in the application.
- 4a) Of the above claim(s) 1-22, 32-50, 56-65, 69, 70, 73, 74, 77 and 78 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-31, 51-55, 66 and 67 is/are allowed.
- 6) ☒ Claim(s) 68, 72 and 76 is/are rejected.
- 7) ☒ Claim(s) 71, 75 and 79 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

The examiner acknowledges the amending of claims 29-31, 68, 70, 72, and 74-76.

### ***Claim Objections***

The previous objection to claim 76 for informalities is hereby withdrawn.

### ***Claim Rejections - 35 USC § 112***

The previous rejection of claims 29-31 under USC 112 is hereby withdrawn.

### ***Response to Arguments***

Applicant's arguments with respect to claims 68, 72, and 76 have been considered but are moot in view of the new ground(s) of rejection.

Please note the changes in the subsequent rejections are drawn largely to the designation of the 'first' and 'control' signals ('first' being for the diode on/off, 'control' being for the APC/current control), as necessitated by the current amendments.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

Art Unit: 2828

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 68, 72, and 76 are rejected under 35 U.S.C. 102(e) as being anticipated by Kimura (US 6496525).

With respect to claim 68, Kimura discloses an accelerator circuit for accelerating the turn-on operation of a laser diode, the laser diode being connected to a current driver circuit providing a bias current to the laser diode (fig.7 #6), a control circuit being connected to the current driver circuit (fig.7 #4, 5) for controlling the bias current in response to a command signal (fig.7 Vref) indicative of the desired bias current level and the commanded power of the laser diode and a feedback signal (fig.7 #Vivc) indicative of the laser output power level, the control circuit including a compensation capacitor (fig.7 #5) establishing the control loop bandwidth of the control circuit, the accelerator circuit comprising: a laser turn-on control circuit (fig.7 #7A/8) coupled to receive a first signal for turning on the laser diode (fig.7 DATA) when the laser diode has been turned off (fig.8a, diode is on/off based on DATA signal), the laser turn-on control circuit providing a control signal having a first state indicative of a first condition for turning on the laser diode (fig.7 ABC high, first condition is the beginning of the APC) and a second state indicative of a second condition (fig.7 ABC low, second condition is APC ending), and a current source (fig.9 no label) responsive to the control signal (on/off), for providing a boost current to the compensation capacitor of the control circuit (col.9 lines 52-60), wherein the laser turn-on control circuit provides the control signal having the first state for turning on the current source (col.9 lines 52-60), and the laser

Art Unit: 2828

turn-on control circuit provides the control signal having the second state for turning off the current source (col.9 lines 61-67).

With respect to claim 72, Kimura discloses a laser driver circuit for driving a laser diode comprising: a current to voltage converter (fig.7 #2) for converting an output current of a photodiode into a feedback signal, the photodiode (fig.7 #1) monitoring the output power of the laser diode, a differential amplifier (fig.4 #11) coupled to receive the feedback voltage signal (fig.7 V<sub>ivc</sub>) and a command signal (fig.7 #V<sub>ref</sub>) indicative of a predetermined bias current level for driving the laser diode to a command power level, the differential amplifier providing an output signal indicative of the difference between the feedback signal and the command signal (cols.5-6 lines 40-10), the differential amplifier including a compensation capacitor (fig.7 #5) for determining a control loop bandwidth of the laser driver circuit, a current driver circuit providing a bias current to the laser diode (fig.7 #6) corresponding to the output signal from the differential amplifier (through V<sub>h</sub>), and a turn-on accelerator circuit (fig.7 #7A/8) comprising: a laser turn-on control circuit (fig.7 #7A/8) coupled to receive a first signal for turning on the laser diode (fig.7 DATA) when the laser diode has been turned off (fig.8a, diode is on/off based on DATA signal), the laser turn-on control circuit providing a control signal having a first state indicative of a first condition for turning on the laser diode (fig.7 ABC high, first condition is the beginning of the APC) and a second state indicative of a second condition (fig.7 ABC low, second condition is APC ending), and a current source (fig.9 no label), responsive to the control signal (on/off), for providing a boost current to the compensation capacitor of the differential amplifier (col.9 lines 52-60), wherein the laser

Art Unit: 2828

turn-on control circuit provides the control signal having the first state for turning on the current source (col.9 lines 52-60), and the laser turn-on control circuit provides the control signal having the second state for turning off the current source (col.9 lines 61-67).

With respect to claim 76, Kimura discloses a method for turning on a laser diode, the laser diode being controlled by a control loop including a compensation capacitor (fig.7 #5) for establishing the bandwidth of the control loop, the method comprising: receiving a first signal (fig.7 DATA) having a first state for turning on the laser diode when the laser diode has been turned off (fig.8a, diode is on/off based on DATA signal) and a second state for turning off the laser diode, generating a control signal responsive to the first signal (fig.7 ABC), the control signal having a first state indicative of a first condition for turning on the laser diode (fig.7 ABC high, first condition is the beginning of the APC) and a second state indicative of a second condition (fig.7 ABC low, second condition is APC ending), providing a current to the compensation capacitor when the control signal is in the first state (col.9 lines 52-60), and terminating the current to the compensation capacitor when the control signal is in the second state (col.9 lines 61-67).

***Allowable Subject Matter***

Claims 23-28, 51-55, and 66-67 are allowed.

Claims 71, 75, and 79 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 23, 51, 71 and 75 are believed to be allowable as each of these claims describes the use of a logic circuit receiving specific signals and generating a control signal used by the current source. Kimura teaches many different control and driving signals, as well as the use of basic logic circuits (fig.13), but does not teach the proper signals being inputted to the logic circuit, or the output of the logic circuit to be used as is described in the claim limitation. It is believed to be non-obvious to insert logic circuits into the system with the specific inputs and likewise an output controlling explicit circuit components.

Claims 24-28, and 52-55 are allowable as they depend from allowable claims 23 and 51.

Claims 66 and 79 are believed to be allowable as each of these claims describes methods of operating the laser driving circuit by use of multiple signals, each having at least two states. While Kimura teaches similar signals and corresponding states, the combination of the signals and their designated function (please see reason for allowance of claims 23, 51, 71 and 75 above) described in the claim limitations is not taught, nor is it believed to be obvious to combine the various existing signals of Kimura in a way that would meet the claim limitations.

Art Unit: 2828

Claim 67 is allowable as it depends from allowable claim 66.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

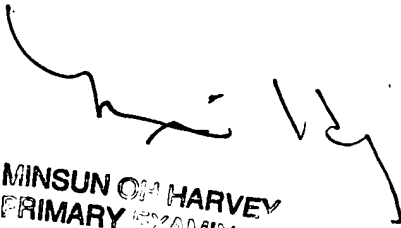


Art Unit: 2828

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR



**MINSUN O. HARVEY**  
**PRIMARY EXAMINER**